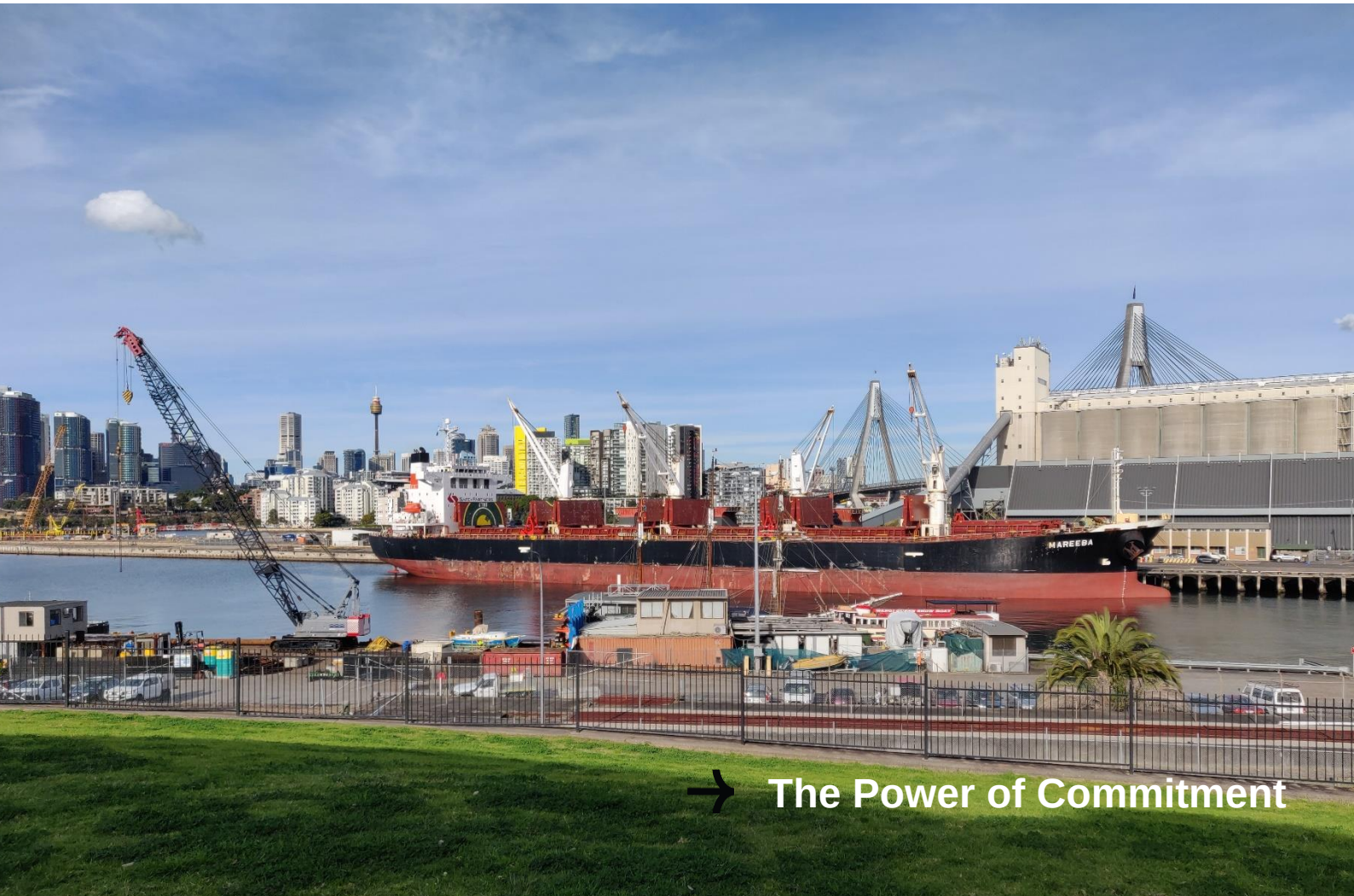
Monthly compliance noise monitoring report

Glebe Island / White Bay

Port Authority of New South Wales

March 2022



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			Name	Signature	Name	Signature	Date
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1. Introduction

GHD Pty Ltd (GHD) has been engaged by Port Authority of New South Wales (Port Authority) to undertake compliance noise monitoring, as required by the *Port Noise Policy (Port Authority, 2020).*

This report provides the details of the compliance noise monitoring for all vessels at berth during March 2022, as determined using the noise monitoring system. A detailed description of the permanent noise monitoring system including a map of monitoring locations is provided in the Noise Monitoring Plan, available on Port Authority's website.

2. Noise monitoring details and vessel schedule

Client	Company details	Noise monitor name	Noise monitor location	Noise monitor details / settings	Noise monitor serial numbers	Monthly calibration variance
Port Authority of New South Wales	GHD Pty Ltd Member of the Association of Australasian Acoustical Consultants (AAAC) Lead staff are Members of the Australian Acoustical Society (AAS)	L01	Grafton Street, Balmain	**Meter details** Norsonic Nor145 Sound Level Meter with Nor1297 Noise Compass **Meter settings** A-weighted Fast time response 15 minute intervals	14529640	**Initial calibration level 92.6 dBA** Min. deviation = 0.1 dB Max. deviation = 0.2 dB
		L02	Maintenance Building on White Bay		14529642	**Initial calibration level 91.5 dBA** Min. deviation = 0.1 dB Max. deviation = 0.2 dB
		L03	Adjacent to White Bay 2		14529643	**Initial calibration level 91.7 dBA** Min. deviation = 0.0 dB Max. deviation = 0.1 dB
		L04	Onsite at Glebe Island		14529644	**Initial calibration level 91.4 dBA** Min. deviation = 0.2 dB Max. deviation = 0.3 dB

Vessel name	Arrival date and time	Departure date and time	Berth location	Applicable noise monitoring location/s
Luga[1]	March 7, 2022 / 12:40	March 9, 2022 / 12:00	GLB8	L03
Atlantic Dawn[2]	March 7, 2022 / 20:42	March 10, 2022 / 20:00	GLB2	Attended monitoring
Mareeba	March 12, 2022 / 14:57	March 17, 2022 / 16:00	GLB7	L03
Pioneer	March 17 , 2022 / 21:11	March 22, 2022 / 11:00	GLB7	L03
HMAS Canberra[2]	March 29, 2022 / 15:00	April 6, 2022 / 16:00	WB4	Attended monitoring
Mareeba	March 31, 2022 / 02:49	April 4, 2022 / 22:00	GLB7	L03

Note 1) Data was unable to be obtained for the Luga during this visit due to adverse weather conditions for the entire visit

Note 2) Attended monitoring was undertaken for the Atlantic Dawn and HMAS Canberra

3. Compliance summary

Vessel	Dates at berth	Monitor location	Vessel Noise Level, dBA (inclusive of any modifying factor penalties)			Vessel Noise Trigger Levels, dBA			Compliance[1]	
			Day[2] $L_{Aeq(15\ hr)}$	Night[3] $L_{Aeq(1\ hr)}$	Night[3] L_{Amax}	Day[2] $L_{Aeq(15\ hr)}$	Night[3] $L_{Aeq(1\ hr)}$	Night[3] L_{Amax}	Day	Night
Atlantic Dawn[4]	Mar 7 – Mar 9	Attended	55	60	70	60	55	65	Yes	No
Mareeba	Mar 12 – Mar 17	L03	56	51	65	60	55	65	Yes	Yes
Pioneer	Mar 17 – Mar 22	L03	54	55	65	60	55	65	Yes	Yes
HMAS Canberra [4]	Mar 29 – April 6	Attended	56	56	-	60	55	65	Yes	No
Mareeba	Mar 31 – Apr 4	L03	57	53	64	60	55	65	Yes	Yes

Note: 1) If non-compliance is detected, a detailed investigation of the results will be undertaken and reported separately if required

Note: 2) Daytime period (7 am to 10 pm) – 15 hour logarithmic average

Note: 3) Night-time (10 pm to 7 am) – worst case 1 hour period

Note: 4) Attended monitoring report prepared for these vessels and are available on the Port Authority website. See these reports for detailed discussion regarding night-time exceedance

4. Detailed results

4.1 Mareeba – March 12 – March 17, 2022 (GLB7)

4.1.1 Daily noise monitoring results

Date	Time period	Monitor location	Noise descriptor	Vessel noise level dBA[2]	Tonal	LFN[3]	Vessel Noise Trigger Levels, dBA	Compliance
March 12, 2022[5]								
March 13, 2022[5]								
March 14, 2022[5]								
March 15, 2022	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	53	No	Yes[4]	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	51	No	No	55	Yes
			L_{Amax}	65	-	-	65	Yes
March 16, 2022	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	53	No	Yes[4]	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	51	No	No	55	Yes
			L_{Amax}	58	-	-	65	Yes
March 17, 2022	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	56	No	Yes[4]	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	-	-	-	55	-
			L_{Amax}	-	-	-	65	-

Notes

1) Daytime period (7 am to 10 pm) – 15 hours

Night-time period (10 pm to 7 am) – worst case 1 hour

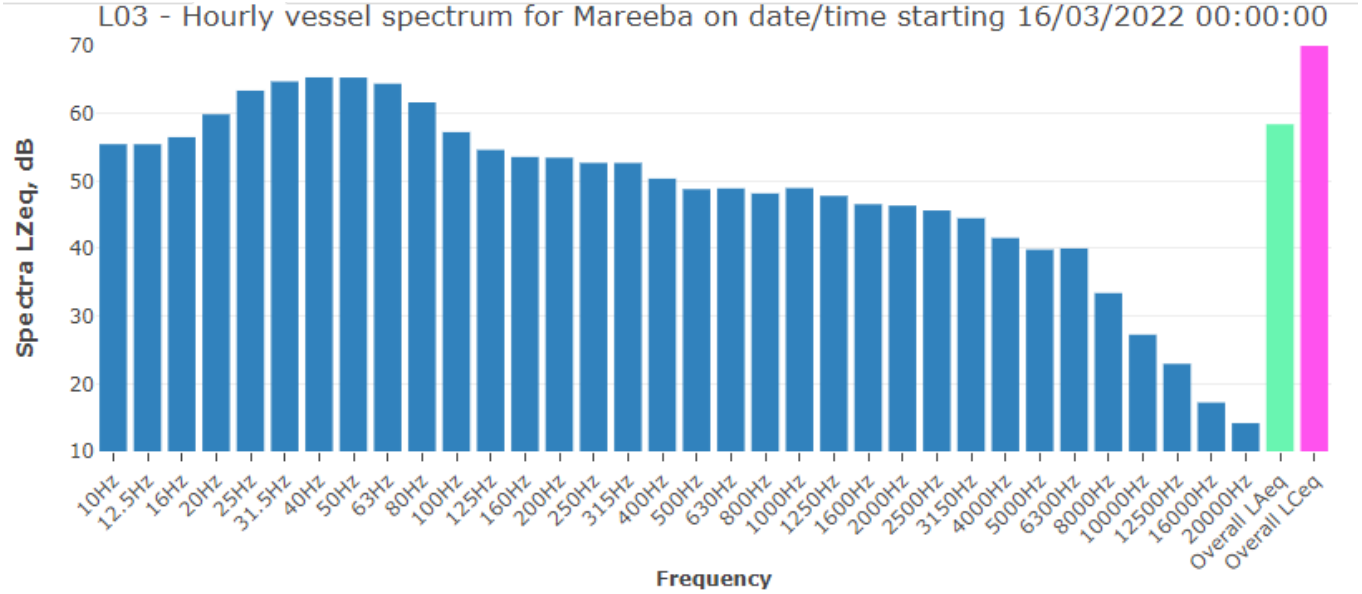
2) Inclusive of any penalties for modifying factors

3) LFN = Low Frequency Noise

4) The Port Noise Policy does not currently apply the Noise Policy for Industry (NPfI) method modifying factor for low frequency noise. A 2 dB penalty for daytime and a 5 dB penalty for the evening/night-time period would apply when assessed in accordance with Fact Sheet 3 Corrections for annoying noise characteristics from the EPA's Noise Policy for Industry Further investigation is currently being undertaken to determine impacts from low frequency noise from vessels.

5) Weather station was not operational on March 12-14, and therefore data could not be provided for this period

4.1.2 Additional information



Note: The overall frequency spectrum can be classified into low (≤160 Hz), medium (160-2000 Hz) and high (≥2000 Hz) frequencies. Where low frequency components are identified in the hourly spectra, the frequency bars are shaded in cyan. Where tones are identified in the hourly spectra, the frequency bars are shaded in red.

Figure 4.1 Typical vessel spectrum – noise level at L03

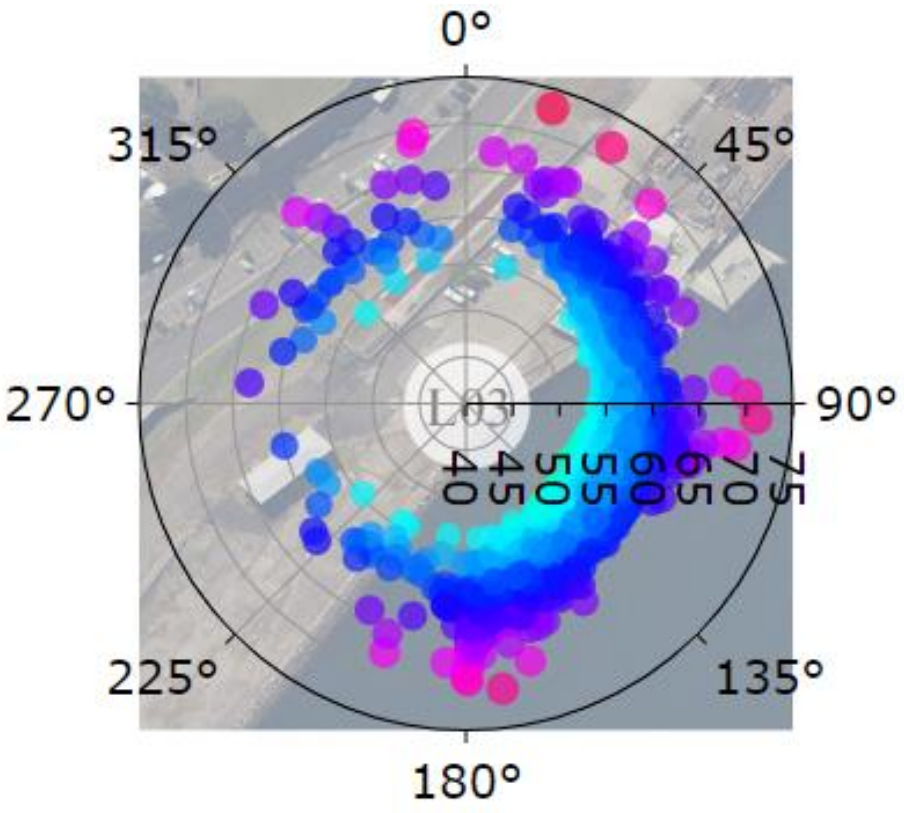


Figure 4.2 Typical vessel polar (directional) plot

4.2 Pioneer – March 17 – March 22, 2022 (GLB7)

4.2.1 Daily noise monitoring results

Date	Time period	Monitor location	Noise descriptor	Vessel noise level dBA[2]	Tonal	LFN[3]	Vessel Noise Trigger Levels, dBA	Compliance
March 17, 2022	Day	L03	$L_{Aeq, 15\ hour}$[1]	51	No	Yes[4]	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	54	No	No	55	Yes
			L_{Amax}	65	-	-	65	Yes
March 18, 2022	Day	L03	$L_{Aeq, 15\ hour}$[1]	54	No	No	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	55	No	No	55	Yes
			L_{Amax}	57	-	-	65	Yes
March 19, 2022	Day	L03	$L_{Aeq, 15\ hour}$[1]	54	No	No	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	48	No	No	55	Yes
			L_{Amax}	57	-	-	65	Yes
March 20, 2022	Day	L03	$L_{Aeq, 15\ hour}$[1]	49	No	No	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	50	No	No	55	Yes
			L_{Amax}	56	-	-	65	Yes
March 21, 2022	Day	L03	$L_{Aeq, 15\ hour}$[1]	50	No	No	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	48	No	No	55	Yes
			L_{Amax}	61	-	-	65	Yes
March 22, 2022	Day	L03	$L_{Aeq, 15\ hour}$[1]	53	No	Yes[4]	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	-	-	-	55	-
			L_{Amax}	-	-	-	65	-

Notes

1) Daytime period (7 am to 10 pm)– 15 hours

Night-time period (10 pm to 7 am) – worst case 1 hour

2) Inclusive of any penalties for modifying factors

3) LFN = Low Frequency Noise

4) The Port Noise Policy does not currently apply the Noise Policy for Industry (NPfI) method modifying factor for low frequency noise. A 2 dB penalty for daytime and a 5 dB penalty for the evening/night-time period would apply when assessed in accordance with Fact Sheet 3 Corrections for annoying noise characteristics from the EPA's Noise Policy for Industry Further investigation is currently being undertaken to determine impacts from low frequency noise from vessels.

4.2.2 Additional information

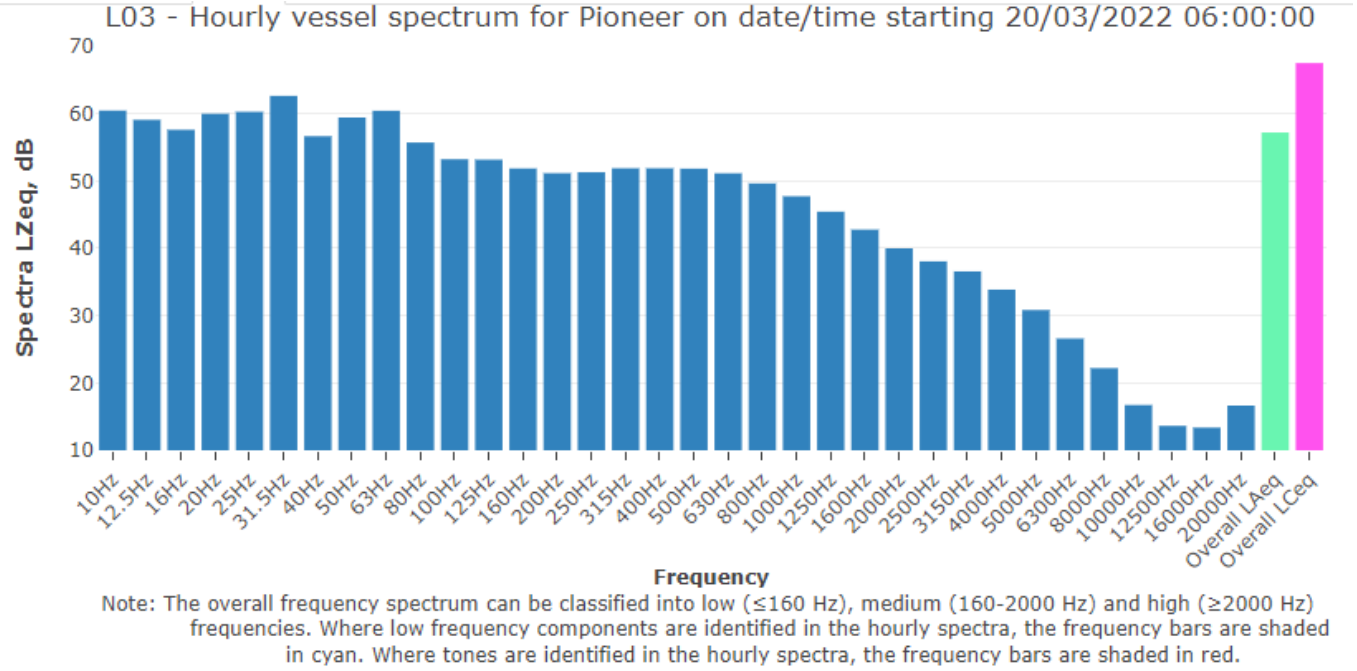


Figure 4.3 Typical vessel spectrum – noise level at L03

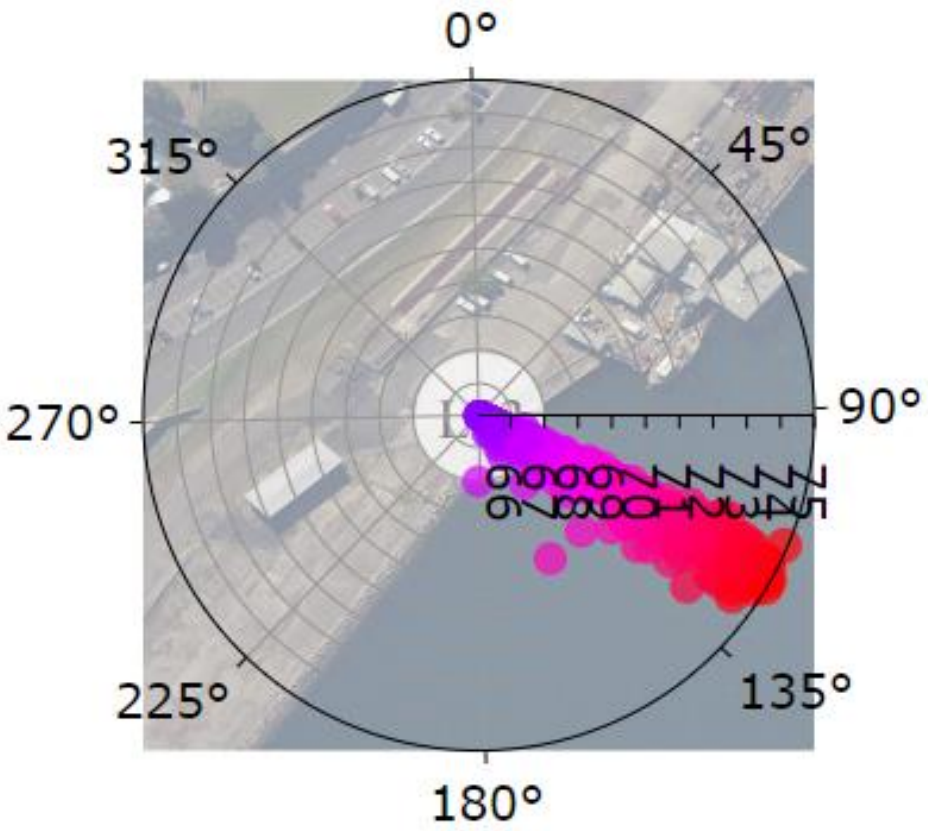


Figure 4.4 Typical vessel polar (directional) plot

4.3 Mareeba – March 31 – April 4, 2022 (GLB7)

4.3.1 Daily noise monitoring results

Date	Time period	Monitor location	Noise descriptor	Vessel noise level dBA[2]	Tonal	LFN[3]	Vessel Noise Trigger Levels, dBA	Compliance
March 31, 2022	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	55	No	Yes[4]	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	53	No	No	55	Yes
			L_{Amax}	64	-	-	65	Yes
April 1, 2022	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	57	No	No	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	52	No	No	55	Yes
			L_{Amax}	63	-	-	65	Yes
April 2, 2022[5]	-							
April 3, 2022[5]	-							
April 4, 2022	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	54	No	No	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	-	No	No	55	Yes
			L_{Amax}	-	-	-	65	Yes

Notes

1) Daytime period (7 am to 10 pm)– 15 hours

Night-time period (10 pm to 7 am) – worst case 1 hour

2) Inclusive of any penalties for modifying factors

3) LFN = Low Frequency Noise

4) The Port Noise Policy does not currently apply the Noise Policy for Industry (NPfI) method modifying factor for low frequency noise. A 2 dB penalty for daytime and a 5 dB penalty for the evening/night-time period would apply when assessed in accordance with Fact Sheet 3 Corrections for annoying noise characteristics from the EPA's Noise Policy for Industry Further investigation is currently being undertaken to determine impacts from low frequency noise from vessels.

5) Weather station was not operational on April 2 and 3, and therefore data could not be provided for this period

4.3.2 Additional information

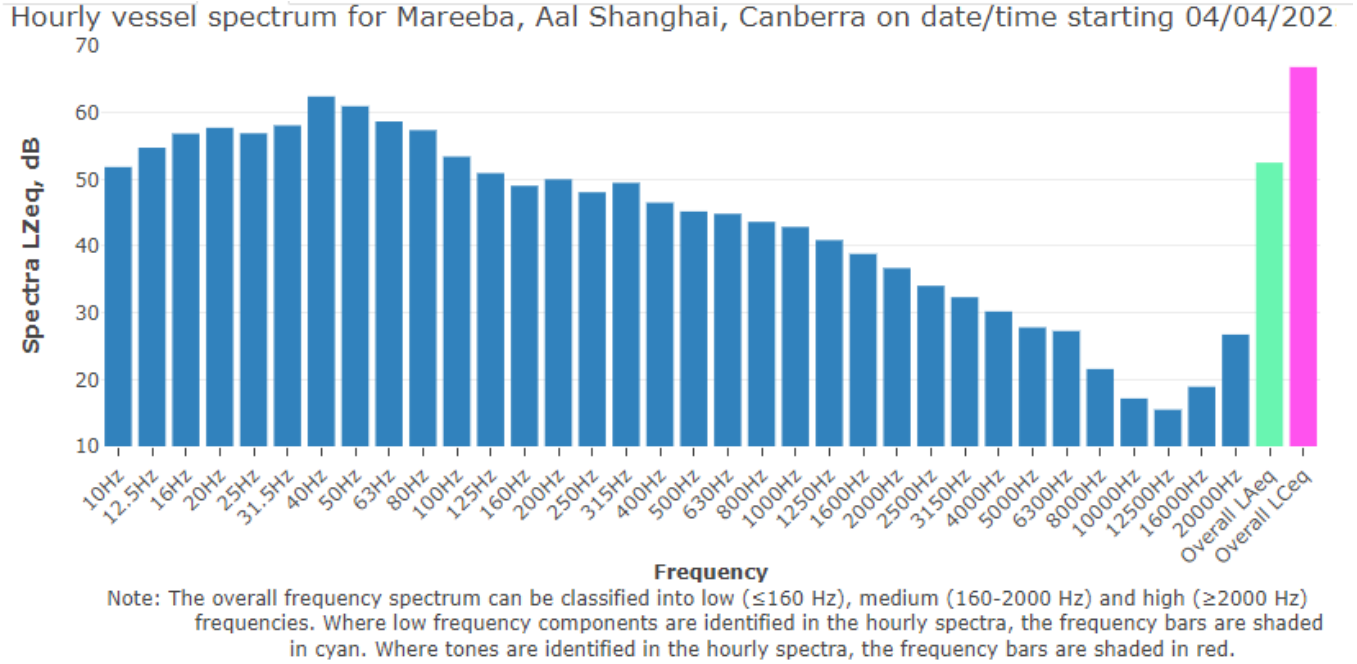


Figure 4.5 Typical vessel spectrum – noise level at L03

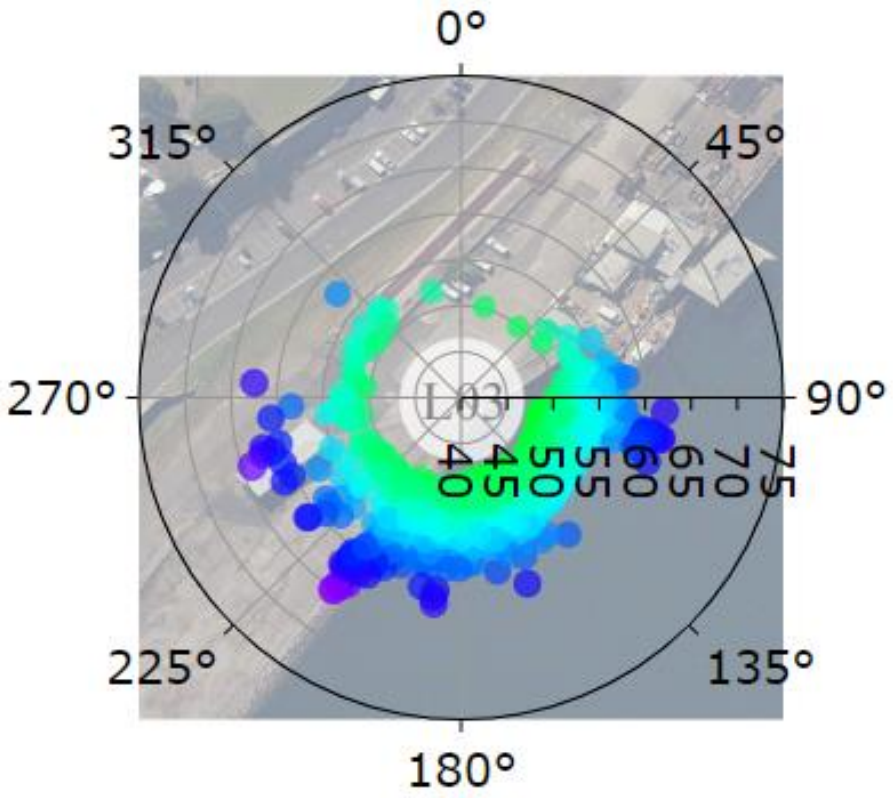


Figure 4.6 Typical vessel polar (directional) plot

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